KTGU　Special　Lectures

スーパーグローバルコース数学特別講演会

マサリク大学の藤井宗一郎先生の講演が下記要領にて行われます。

日時：2025 年 2 月 7 日（金）　15：00〜17：00

場所：理学研究科 3 号館 108 室

藤井宗一郎
（Masaryk University）

タイトル：Hom complexes of graph homomorphisms and square-free graphs

概要：

The Hom complex Hom(G, H) is a certain polyhedral complex associated with a pair of (undirected, finite, and simple) graphs G and H, whose vertices correspond to the graph homomorphisms from G to H. Hom complexes have been applied to the graph coloring problem, and are also related to the more recent topic of combinatorial reconfiguration.
In this talk, I will begin with the basics of Hom complexes and explain our recent result determining the homotopy type of (each connected component of) Hom(G, H) when H is square-free, meaning that it does not contain the 4-cycle graph as a subgraph.
Although it is known that the homotopy type of Hom(G, H) can be quite complicated in general, for a connected G and a square-free H, we show that each connected component of Hom(G, H) is homotopy equivalent to a wedge sum of circles. A key tool for this is a certain "path object" construction for graphs, which might be of independent interest.
(Based on joint work with Kei Kimura and Yuta Nozaki.)

・本学の学生は申込不要です。
・本講演は京都大学のスーパーグローバル教育プログラム、スーパーグローバルコース（数学分野）の企画講演です。当コースについての詳細は https://www.math.kyoto-u.ac.jp/ja/ktgu/ktgu をご覧ください。